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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/801,341

03/12/2004

Curt Nelson

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01/09/2006

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EXAMINER

SARKAR, ASOK K

ART UNIT

PAPER NUMBER

2891

DATE MAILED: 01/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/801,341

Applicant(s)

NELSON ET AL.

Examiner

Asok K. Sarkar

Art Unit

2891

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 15 December 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 and 23-54 is/are pending in the application.
- 4a) Of the above claim(s) 32-51 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20, 23-31 and 52-54 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Response to Arguments*

1. Applicant's arguments with respect to claims 1 – 20, 23 – 31 and 52 – 54 have been considered but are moot in view of the new ground(s) of rejection.

### ***Claim Rejections - 35 USC § 102***

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1 – 5, 7 – 14, 16 – 19, 23 – 26, 28 – 31 and 52 – 54 are rejected under 35 U.S.C. 102(b) as being anticipated by Peng, US 2002/0016075.

Regarding claims 1 – 3, 11, 12, 52 and 54, Peng teaches a method of forming a thin film comprising:

- a) forming a layer of material on at least a portion of at least one surface of a substrate, the layer of material being selected from a conductive material (ITO is a conductive material), a precursor of a conductive material, and combinations thereof;
- b) selectively modifying one or more material properties (crystallinity) of at least a first portion of the formed layer of material by selectively directing laser radiation on the first portion; and
- c) selectively removing at least a second portion of the formed layer of material with reference to the Abstract of the article and Figs 2 and 3 and associated descriptions in paragraphs 20 – 25. The removed portion comprises material that is unmodified and remains amorphous.

Regarding claims 4, 5, 13 and 14, Peng teaches the material is formed by

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vacuum deposition process, sputtering in the Abstract.

Regarding claims 7, 16 and 53, Peng teaches selective modification by laser annealing process in the Abstract.

Regarding claims 8 and 17, Peng teaches laser annealing processes comprise localized annealing using a pulsed excimer laser in paragraphs 20 and 21 and Fig. 3.

Regarding claims 9 and 18, Peng teaches the formed material layer is selectively annealed, the selection being based at least in part on its position on said substrate in paragraph 22.

Regarding claims 10 and 19, Peng teaches changing the material property such as crystallinity in the Abstract.

Regarding claim 20, Peng teaches the thin film comprises one film 38 with reference to Fig. 3.

Regarding claim 23, Peng teaches a transparent thin film electronic device, formed substantially by a process comprising:

forming one or more material layers on a substrate, each of the one or more material layers being selected from a conductive material, a precursor of a conductive material and combinations thereof; selectively modifying at least a first portion of said one or more material layers; and removing at least a second portion of said one or more material layers, wherein said at least a second portion comprises one or more non-annealed portions of said one or more material layers as was described earlier in rejecting claims 1 – 3, 11, 12, 52 and 54.

Regarding claims 24 – 26 and 28 – 32, Peng teaches these limitations as described earlier in rejecting claims 3 – 5. 7 – 10. 12 – 14 and 16 – 19.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

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6. Claims 6, 15 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Peng, US 2002/0016075 in view of Harima, US 5,169,672.

Peng fails to teach material layer comprising sol – gel material.

Harima teaches forming the ITO film by vacuum deposition or sol – gel process in column 13, lines 1 – 9.

Therefore, it would have been obvious to one with ordinary skill in the art at the time of the invention to modify Peng and form the ITO film by sol – gel process since the processes are functionally equivalent.

### ***Conclusion***

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

8. This application contains claim 32 – 51 drawn to an invention nonelected without traverse in Paper filed August 29, 2005. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Asok K. Sarkar whose telephone number is 571 272 1970. The examiner can normally be reached on Monday - Friday (8 AM- 5 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William B. Baumeister can be reached on 571 272 1722. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

10. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Asok K. Sarkar  
January 4, 2006

Primary Examiner